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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/664,852	09/22/2003	Ralf Christoph	03158DIV	4305
23338	7590	11/29/2004	EXAMINER	
DENNISON, SCHULTZ, DOUGHERTY & MACDONALD 1727 KING STREET SUITE 105 ALEXANDRIA, VA 22314			GONZALEZ, MADELINE	
			ART UNIT	PAPER NUMBER
			2859	

DATE MAILED: 11/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/664,852	Applicant(s) CHRISTOPH ET AL.	
	Examiner Madeline Gonzalez	Art Unit 2859	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,15,17-19,26 and 29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,15,17-19,26 and 29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/445,430.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 15, 17-19, 26 and 29 are objected to because of the following informalities:
 - a) Claim 15: The claim recites the limitation “the optical system” in line 9. There is insufficient antecedent basis for this limitation in the claim.
 - b) Claims 17-19, 26 and 29: The claims recite the limitation “Array” in line 1, respectively. There is insufficient antecedent basis for this limitation in the claims.
 - c) Claim 19: The claim recites the limitation “the feeler extension” in lines 2-3. There is insufficient antecedent basis for this limitation in the claim.
 - d) Claim 26: The claim recites the limitation “the feeler” in line 2. There is insufficient antecedent basis for this limitation in the claim.
 - e) Claim 26: “be” in line 3 should be replaced with --by--.
 - f) Claims 15, 17-19 and 29: The use of “and / or” throughout the claims make the claim language confusing because it is not clear what applicant is actually claiming. Furthermore, applicant is reminded that “or” should only be used with alternate terms, e.g., rod or bars, etc.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 18, 19 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Ricklefs (U.S. 5,103,572).

Ricklefs discloses a method for measurement of structures of an object 5 by means of a feeler element 2, as shown in Fig. 1, assigned to a coordinate measuring instrument and brought into contact with the object 5 and whose position is then indirectly or directly determined, the method including:

- wherein the position of the feeler element 2 is determined directly with an optical system for measurement of the structure of the object 5;
- wherein the feeler element 2 is a body such as a ball spatially reflecting a beam;
- wherein a feeler extension 3 is designed at least in some sections 3a elastic to bending; and
- wherein a feeler 1 extends from a holder 4 that is adjustable by at least three degrees of freedom (since the holder is attached to a 3D machine), preferably five (since in addition to adjustments in the X, Y and Z axes, the holder 4 tilts), and preferably interchangeable (see column 3, lines 48-49).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 17 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ricklefs (U.S. 5,103,572) in view of Pryor (U.S. 4,574,199).

Ricklefs discloses all the subject matter claimed above in paragraph 3 with the exception of the feeler element being designed self-emitting, and the feeler element having a self-lighting electronic element such as an LED.

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With respect to the feeler element being designed self-emitting, and the feeler element having a self-lighting electronic element such as an LED: Pryor discloses a device, as shown in Fig. 2, having a feeler element 101 including a light emitting diode 120 illuminating edges 121, and an image of the edges 121 is imaged to a photodetector array 122 in order to determine the position of the feeler element 101. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to replace the laser 8 and the mirror 2a of the feeler 1 disclosed by Ricklefs with a light emitting diode as taught by Pryor in order to determine the position of the feeler 1.

7. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ricklefs (U.S. 5,103,572) in view of Pryor (U.S. 4,574,199).

Ricklefs discloses an array for measurement of structures of an object 5 by means of a feeler 1 assigned to a coordinate measuring instrument and including:

- a feeler element 2 and preferably a feeler extension 3;
- an evaluation unit 80 with which the structure is calculated from the position of an optical system composed by elements 2a, 8a, 8b, 8, and 9, relative to the coordinate system of the coordinate measuring instrument and from the position of feeler element 2 measured directly using the optical system; and
- wherein the feeler element 2 is designed as a reflector.

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Ricklefs lacks the coordinate measuring instrument having a sensor for optical determination of the feeler element, and wherein the sensor forms the feeler element with at least one jointly adjustable unit.

With respect to the coordinate measuring instrument having a sensor for optical determination of the feeler element, and wherein the sensor forms the feeler element with at least one jointly adjustable unit: Pryor discloses a device, as shown in Fig. 1, having a coordinate measuring device 3 having a sensor 24 for optical determination of a feeler element 4, wherein the sensor 24 forms the feeler element 4 with at least one jointly adjustable unit 1. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to provide the coordinate measuring instrument disclosed by Ricklefs with a sensor as taught by Pryor in order to monitor the feeler element 2.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Christoph et al. ('351), Schroeder et al. ('651), Christoph ('750), Schroeder et al. ('784), Christoph ('749), Yoshizumi et al. ('181), Freifeld, Ernst, Breyer et al. ('489), and Feichtinger disclose related coordinate measuring machines having a feeler element and an optical system.

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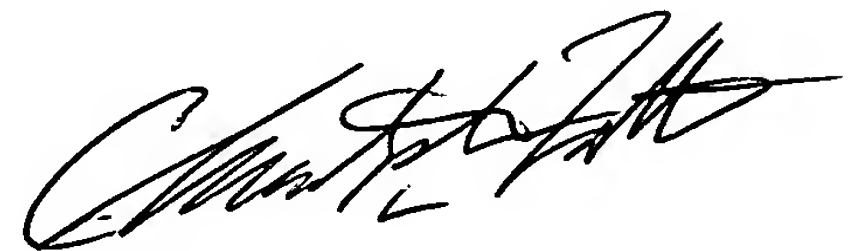
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Madeline Gonzalez whose telephone number is (571) 272-2243.

The examiner can normally be reached on Monday-Friday (8:00-5:30), alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego F.F. Gutierrez can be reached on (571) 272-2245. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MG



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